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EXAMINER

BOAKYE, ALEXANDER O

ART UNIT	PAPER NUMBER
2667	10

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/584,120

Applicant(s)

CHEN MICHAEL

Examiner

Alexander Boakye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8,9,14-20,23,25 and 26 is/are rejected.
- 7) ☒ Claim(s) 3-7, 10-13,21,22,24 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Drawings

1. The drawings are objected to because the drawing elements in Figs. 5 and 7 do not match with the drawing elements in the specifications.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 16 and 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Schuster et al. (US Patent # 6,175,871).

Regarding claim 16, Schuster discloses a system (Fig. 2) for storing at least one frame of an input signal for an amount of time before transmitting the at least one frame, the system comprising: a buffer for storing a frame of an input signal (column 9, lines 36-38), the buffer having a depth which is adjustable (column 8, lines 46-48; see Fig. 6); a buffer detector unit (327, Fig. 6) for determining whether at least a predefined

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amount of frames are stored in the buffer (column 15, lines 41-48); a buffer depth adjuster for altering the depth of the buffer (column 15, lines 48-50; see Fig. 6) responsive to the buffer detector unit determining a predetermined amount of frames are not stored in the buffer.

Regarding claims 17 and 18, Schuster discloses a method for increasing a depth of a multimedia buffer (column 10., lines 22-23) the method comprising the steps of: receiving a frame of an input signal (column 7, lines 24-28) at an arrival-time, the frame having a time stamp indicating a playback time (column 11, lines 49-55; playback time is inherently in the time stamp since time stamp is use to indicate the relative playout time of received packets at user display unit when a user views video programs). Furthermore Schuster teaches determining whether the frame arrived late, the frame arriving late if the arrival time is greater than the playback time (column 10, lines 22-32); altering the depth of the multimedia buffer system if the frame arrived late (column 10, lines 26-35; see Fig. 6).

Regarding claim 19, Schuster discloses that depth of the multimedia buffer system is altered to increase by a maximum amount of time which a frame within a set arrived late (column 10, lines 22-32).

Regarding claim 20, Schuster discloses that the length of the set is variable (column 14, lines 26-35).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster et al. (US Patent # 6,175,871).

Regarding claims 1 and 2, Schuster discloses a system for storing at least one frame of an input signal for an amount of time before transmitting the at least one frame, the system comprising: a buffer for storing a frame of an input signal (column 9, lines 36-38), the buffer having a depth which is adjustable (column 8, lines 46-48; see Fig. 6); a clock for indicating an arrival time of the frame received at the buffer (the claimed clock for indicating an arrival time of the frame received at the buffer is inherently in the receiver decoder since decoder uses the clock to indicate the arrival time of the received frame at the buffer), the frame having a timestamp denoting a playback time (column 11, lines 49-55; Playback time is inherently in the time stamp since time stamp is used to indicate the relative play out time of the received packets at the user display unit when the user views a video programs).

Furthermore, Schuster teaches a buffer depth adjuster for altering the depth of the buffer (column 15, lines 48-50; Fig. 6), wherein the depth of the buffer is altered based on the amount of time the frame did not arrive on schedule. Schuster does not explicitly disclose a comparison module for comparing the arrival time with the playback

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time for determining whether the frame arrived on schedule. However, one of ordinary skill in the art would have been motivated to compare the received time corresponding to arrival time with the timestamp value as evidenced by Schuster (column 9, lines 30-31) since the timestamp is use to indicate the relative play out time. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use compare the received time with the timestamp value as evidenced by Schuster with the motivation being that it provides capability for the system to indicate the relative playback time of the received packet at the user display unit, thus enhancing system reliability and performance.

Claims 8, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster et al. (US Patent # 6,175,871) in view of Ohlsson et al. (US Patent # 6,452,950).

Regarding claim 8, Schuster discloses a buffer having a depth which is adjustable (column 8, lines 46-48). Schuster does not teach that the depth of the buffer does not increase above a maximum predefined value. However, Ohlsson discloses that the depth of the buffer does not increase above a maximum predefined value (column 7, lines 45-48 ; see Fig. 4). One of ordinary skill in the art would have been motivated to incorporate the depth of the buffer does not increase above a maximum predefined value such as the one taught by Ohlsson into the receiver buffer of Schuster in order to prevent buffer overflow. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the depth of the buffer does not increase above a maximum predefined value of Ohlsson into the

communication network of Schuster with the motivation being that it provides capability for the system to prevent buffer overloading.

Regarding claim 14, Schuster discloses a buffer having a depth which is adjustable (column 8, lines 46-48). Schuster does not teach that the depth of the buffer does not decrease below a minimum predefined value. However, Ohlsson teaches that the depth of the buffer does not decrease below a minimum predefined value (column 7, lines 48-51; see Fig. 4). One of ordinary skill in the art would have been motivated to incorporate the depth of the buffer does not decrease below a minimum predefined value such as the one taught by Ohlsson into the receiver buffer of Schuster in order to prevent underflow. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the depth of the buffer does not decrease below a minimum predefined value such as the one taught by Ohlsson into the communication network of Schuster with the motivation being that it provides capability for the system to avoid underflow of packets at the receiver buffer, thus enhancing efficiency.

Regarding claim 15, Schuster discloses a sequencer module for arranging the frames stored in the buffer in an order for playback (column 9, lines 29-44).

Claims 23, 25, 26 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster et al. (US Patent # 6,175,871) in view of Lyons et al. (US Patent # 6,282,196).

Regarding claims 23 and 9, Schuster discloses a method comprising the steps of: receiving a frame of an input signal (column 7, lines 22-23) at an arrival time, the

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frame having a timestamp indicating a playback time (column 11, lines 49-55); altering the depth of the multimedia buffer system (column 10, lines 26-35; see Fig. 6).

Schuster does not disclose determining whether the frame arrived early, the frame arriving early if the arrival time is less than the playback time. However, Lyons discloses determining whether the frame arrived early, the frame arriving early if the arrival time is less than the playback time (column 7, lines 65-66 ; see Figs. 6 and 7).

One of ordinary skill would have been motivated to incorporate the frame arriving early if the arrival time is less than the playback time such as the one taught by Lyons into the communication network of Schuster in order to afford proper loading. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the frame arriving early if the arrival time is less than the playback time such as the one taught by Lyons into the communication network of Schuster with the motivation being that it provides improvement of signal quality, thus enhancing performance.

Regarding claim 25, Schuster discloses determining an amount of frames stored in the multimedia buffer system (column 15, lines 41-48).

Regarding claim 26, Schuster discloses that the depth of the multimedia buffer system is decreased by an amount dependent on the amount of frames stored in the multimedia buffer (column 10, lines 37-44).

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Allowable Subject Matter

4. Claims 3-7, 10-13, 21, 22, 24 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Pat. # 6,157,653..

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Boakye whose telephone number is (703) 308-9554. The examiner can normally be reached on M-F from 8:30am to 6:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham, can be reached on (703) 305-4378. The fax number is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-4750.

Alexander Boakye

AB

Patent Examiner

11/10/03


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